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MINERALS INERT, FRIENDLY AND AGRESSIVE TO THE ENVIRONMENT

BĂLAN PITIŞ, O.M. (North University, Baia Mare, Romania)

One of the subjects of major importance all over the world is the environment. The great polluting industries have a severe impact on the environment, but looking from this perspective only means a superficial approach to this problem.

Having the ecological laws stated by Barrens as a starting point, we considered a study from the basis important for a correct analysis, taking into consideration the raw material sources.

The cause-effect relations are sometimes difficult to recognize in natural geological systems as several mineralogical and geochemical parameters vary simultaneously and in different ways.

In this study, mineral species will be dealt with following the system of mineralogy, not according to their frequency in the Earth's crust. In order to describe a mineral as being „inert", „friendly" or „aggressive", we will consider the impact they have on the fauna and flora, directly or as a result of natural biochemical processes.

Some examples are listed here to emphasize the importance of mineralogy in understanding natural processes and thus contributing to environment protection.

Soils can lose elements through leaching, plants remove elements necessary for their growth selectively from the soil and animals intensify the degree of uptake of a certain element through selective feeding. Thus, to restore the original state of disturbed, cultivated or polluted soils it is essential to know all processes that mobilize elements in one way or another.

Pollutions can be both of human and „natural" origin. Under the action of atmospheric agents (wind, variations in temperature, rain fall etc.) radioactive minerals are partially altered, dissolved and thus radioactive elements – for example uranium originating from certain phosphates or arsenates containing UO_2 – are dispersed by waters, contributing to environment pollution. On the other hand, absorbing properties of clay minerals can be used to eliminate pollution.

Last but not least, a strong relation exists between minerals and living organisms. In the last centuries the idea that geology could be associated with aspects of health was suggested by geographical correlation. The frequency of some diseases seems to be more characteristic in some areas than in others, thus the relations between the geological environment and human health are extensively researched recently by medical geology.

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